

CLAIMS

What is claimed is:

1. A refrigerant cycle comprising:

at least two compressors, said compressors having discharge ports communicating with a common discharge manifold; and suction ports communicating with a common suction manifold;

a first heat exchanger downstream of said discharge manifold;

a main flow line leaving said first heat exchanger and leading to at least one economizer heat exchanger, and at least one tap line off of said main flow line upstream of said at least one economizer heat exchange, refrigerant in said tap line and refrigerant in said main flow line both passing through said at least one economizer heat exchanger, said main refrigerant flow returning to said compressors; and

refrigerant in said tap line passing to at least one of said compressors downstream of said economizer heat exchanger and not passing to at least one compressor.

2. A refrigerant cycle as set forth in claim 1, wherein an economizer shutoff valve controls flow of tapped refrigerant through said at least one economizer heat exchanger.

3. A refrigerant cycle as set forth in claim 2, wherein said shutoff valve is a solenoid valve.

4. A refrigerant cycle as set forth in claim 2, wherein said shutoff valve is part of an expansion device.
5. A refrigerant cycle as set forth in claim 1, wherein said economizer return line communicates with an intermediate compression point in said one compressor.
6. A refrigerant cycle as set forth in claim 5, wherein an unloader line communicates with said economizer return line, and has an unloader valve for selectively controlling flow through said unloader line back to a suction line returning refrigerant to said one compressor.
7. A refrigerant cycle as set forth in claim 1, wherein a control is provided with control options recognizing that said at least one compressor has economized operation as an option.
8. A refrigerant cycle as set forth in claim 1, wherein there are at least three of said compressors, with at least two not receiving refrigerant from said tap line.
9. A refrigerant cycle as set forth in claim 1, wherein there are at least three compressors, with at least two of said compressors receiving refrigerant from said tap line.
10. A refrigerant cycle as set forth in claim 9, wherein a single economizer heat exchanger delivers refrigerant to said at least two of said compressors.

11. A refrigerant cycle as set forth in claim 9, wherein at least two economizer heat exchangers deliver refrigerant separately to said at least two of said compressors.

12. A refrigerant cycle comprising:

at least two compressors, said compressors having discharge ports communicating with a common discharge manifold; and suction ports communicating with a common suction manifold;

a first heat exchanger downstream of said discharge manifold;

a main flow line leaving said first heat exchanger and leading to at least one economizer heat exchanger, and at least one tap line off of said main flow line upstream of at least one of said economizer heat exchanger, refrigerant in said tap line and refrigerant in said main flow line both passing through said at least one economizer heat exchanger, said main refrigerant flow returning to said compressors;

refrigerant in said tap line passing to at least one of said compressors downstream of said economizer heat exchanger and to an intermediate compression point, and not passing to at least one of said compressors, an economizer return valve controlling flow of said tapped refrigerant; and

a control is provided with control options recognizing that said at least one compressor has economized operation as an option.

13. A refrigerant cycle as set forth in claim 12, wherein an unloader line communicates with said economizer return line, and has an unloader valve for selectively controlling flow through said unloader line back to a suction line returning refrigerant to said at least one compressor.

14. A refrigerant cycle as set forth in claim 12, wherein there are at least three of said compressors, with at least two not receiving refrigerant from said tap line.

15. A refrigerant cycle as set forth in claim 12, wherein there are at least three compressors, with at least two of said compressors receiving refrigerant from said tap line.

16. A refrigerant cycle as set forth in claim 15, wherein a single economizer heat exchanger delivers refrigerant to said at least two of said compressors.

17. A refrigerant cycle as set forth in claim 15, wherein at least two economizer heat exchangers deliver refrigerant separately to said at least two of said compressors.